

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :
Hirokazu NAKANO :
Serial No. NEW : **Attn: APPLICATION BRANCH**
Filed December 10, 2003 : Attorney Docket No. 2003_1266A
RADIATION THERAPY TREATMENT
PLANNING MACHINE
THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the provisions of 37 CFR 1.56, 1.97 and 1.98, Applicant requests consideration of the references listed on attached form PTO-1449. A legible copy of each reference listed on the form PTO-1449 is enclosed.

1a. ☒ This Information Disclosure Statement is submitted:

within three months of the filing date (or of entry into the National Stage) of the above-entitled application, **or**

before the mailing date of the first Office Action on the merits,

and thus no certification and/or fee is required.

1b. ☐ This Information Disclosure Statement is submitted

after the events of above paragraph 1a and prior to the mailing date of a final Office Action or a Notice of Allowance or an action which otherwise closes prosecution in the application, and thus:

- (1) ☐ the certification of paragraph 2 below is provided, **or**
- (2) ☐ the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.
- 1c. ☐ This Information Disclosure Statement is submitted:
- after the mailing date of a final Office Action or Notice of Allowance or action which otherwise closes prosecution in the application, and prior to payment of the issue fee, and thus:
- the certification of paragraph 2 below is provided, and**
- the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.**
2. It is hereby certified
- a. ☐ that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or
- b. ☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of the Statement.
3. ☐ Consideration of the following list of additional information (including any copending or abandoned U.S. application, prior uses and/or sales, etc.) is requested.
4. For each non-English language reference listed on the attached form PTO-1449, reference is made to:
- a. ☐ a full or partial English language translation submitted herewith,
- b. ☐ a foreign patent office search report (in the English language) submitted herewith,

- c. ☐ the concise explanation contained in the specification of the present application at page ,
- d. ☒ the concise explanation set forth in the attached English language abstracts,
- e. ☐ the concise explanation set forth below or on a separate sheet attached to the reference:
5. ☐ A foreign patent office search report citing one or more of the references is enclosed.

Respectfully submitted,

Hirokazu NAKANO

By Thomas D. Robbins
Thomas D. Robbins
Registration No. 43,369
Attorney for Applicant

TDR/kjf
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
December 10, 2003

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: December 10, 2003

ATTY DOCKET NO.
2003_1266ASERIAL NO.
NEWAPPLICANT
Hirokazu NAKANOFILING DATE
December 10, 2003

GROUP

U.S. PATENT DOCUMENTS

| *EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|----------------------|----|--------------------|------|------|-------|----------|-------------------------------|
| | AA | | | | | | |
| | AB | | | | | | |
| | AC | | | | | | |
| | AD | | | | | | |
| | AE | | | | | | |
| | AF | | | | | | |
| | AG | | | | | | |
| | AH | | | | | | |
| | AI | | | | | | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
|--|----|--------------------|--------|---------|-------|----------|-----------------------|
| | AJ | 2564251 | 9/1996 | JP | | | Abstract |
| | AK | 1-214343 | 8/1989 | JP | | | Abstract |
| | AL | | | | | | |
| | AM | | | | | | |
| | AN | | | | | | |

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

| | | |
|--|----|--|
| | AO | |
| | AP | |
| | AQ | |

EXAMINER

DATE CONSIDERED

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: December 10, 2003

ATTY DOCKET NO.
2003_1266ASERIAL NO.
NEWAPPLICANT
Hirokazu NAKANOFILING DATE
December 10, 2003

GROUP

U.S. PATENT DOCUMENTS

| *EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|----------------------|--|--------------------|------|------|-------|----------|-------------------------------|
|----------------------|--|--------------------|------|------|-------|----------|-------------------------------|

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
|--|--|--------------------|------|---------|-------|----------|-----------------------|
|--|--|--------------------|------|---------|-------|----------|-----------------------|

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

| | | | | | | | |
|--|----|---|--|--|--|--|--|
| | AA | Rolf Staehelin, entitled " <u>INTENSITY MODULATED RADIATION THERAPY - A BREAKTHROUGH IN ONCOLOGY</u> ", Marketing Europe, Varian Medical Systems, Inc., Business Briefing: Global Healthcare 2003. | | | | | |
| | AB | Martijn Engelsman, et al., entitled " <u>IMPACT OF SIMPLE TISSUE INHOMOGENEITY CORRECTION ALGORITHMS ON CONFORMAL RADIOTHERAPY OF LUNG TUMOURS</u> ", Radiother. Oncol. Chapter IV 60, 229-309 (2001). | | | | | |
| | AC | Chandra Burman, PhD, entitled " <u>PROSTATE IMRT: PROMISES AND PROBLEMS</u> ", Memorial Sloan-Kettering Cancer Center, New York, NY 10021. | | | | | |
| | AD | Jessica Chen, entitled " <u>MINIMISING IMRT TREATMENT TIME BY OPTIMAL CONFIGURATION OF MULTILEAF COLLIMATORS</u> ", Department of Operational Research, University of Auckland, New Zealand. | | | | | |
| | AE | C.C. J. Yang et al., entitled " <u>INTENSITY MODULATED RADIATION THERAPY: HIGH DEFINITION RADIATION THERAPY</u> ", pages 55-62. | | | | | |
| | AF | Kazuhiro Takahashi, et al., entitled " <u>WORK IN PROGRESS: TREATMENT PLANNING SYSTEM FOR CONFORMATION RADIOTHERAPY</u> ", Radiology, Vol. 147, No. 2, pages 567-573. | | | | | |
| | AG | Toni Neicu, et al., entitled " <u>SYNCHRONIZED MOVING APERTURE RADIATION THERAPY (SMART); AVERAGE TUMOUR TRAJECTORY FOR LUNG PATIENTS</u> ", Institute of Physics Publishing, Phys. Med. Biol. 48 (2003) pages 587-598. | | | | | |
| | AH | Tony Xu, et al., entitled " <u>RESHAPABLE PHYSICAL MODULATOR FOR INTENSITY MODULATED RADIATION THERAPY</u> ", Med. Phys. 29 (10), October 2002, pages 2222-2229. | | | | | |
| | AI | Lei Xing, et al., entitled " <u>ITERATIVE METHODS FOR INVERSE TREATMENT PLANNING</u> ", Phys. Med. Biol. 41 (1996), pages 2107-2123. | | | | | |
| | AJ | Paul S. Cho, et al., entitled " <u>HARDWARE-SENSITIVE OPTIMIZATION FOR INTENSITY MODULATED RADIOTHERAPY</u> ", Phys. Med. Biol. 45 (2000), pages 429-440. | | | | | |

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of form with next communication to applicant.

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: December 10, 2003

ATTY DOCKET NO.
2003_1266ASERIAL NO.
NEWAPPLICANT
Hirokazu NAKANOFILING DATE
December 10, 2003

GROUP

U.S. PATENT DOCUMENTS

| *EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|----------------------|--|--------------------|------|------|-------|----------|-------------------------------|
|----------------------|--|--------------------|------|------|-------|----------|-------------------------------|

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
|--|--|--------------------|------|---------|-------|----------|-----------------------|
|--|--|--------------------|------|---------|-------|----------|-----------------------|

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

| | | |
|--|----|--|
| | AK | Srijit Kamath, et al., entitled " <u>LEAF SEQUENCING ALGORITHMS FOR SEGMENTED MULTILEAF COLLIMATION</u> ", Pys. Med. Biol 48 (2003), pages 307-324. |
| | AL | P. Xia, et al., entitled " <u>PHYSICAL CHARACTERISTICS OF A MINIATURE MULTILEAF COLLIMATOR</u> ", Med. Phys. 26 (1), January 1999, pages 65-70. |
| | AM | A. Boyer et al., entitled " <u>THEORETICAL CONSIDERATIONS OF MONITOR UNIT CALCULATIONS FOR INTENSITY MODULATED BEAM TREATMENT PLANNING</u> ", Med. Phys. 26 (2), February 1999, pages 187-195. |
| | AN | Jeff M. Michalski, M.D., et al., entitled " <u>THREE-DIMENSIONAL CONFORMAL RADIATION THERAPY (3DCRT) FOR PROSTATE CANCER</u> ", July 6, 1996, pages 1-10. |
| | AO | D. Tronc, et al., entitled " <u>RADIOTHERAPY PROCESS INTEGRATION USING A COMPACT PHOTON SOURCE TOGETHER WITH FLUENCE CONTROL AND PATIENT IMAGING</u> ", General Electric Medical System, BP 334, 78 533 Buc Cedex, France. |
| | AP | Jack Van Dyk, et al., entitled " <u>TOMOTHERAPY: A "REVOLUTION" IN RADIATION THERAPY</u> ", pages 1-16. |

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of form with next communication to applicant.